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(54) **Nonaqueous liquid nonionic laundry detergent compositions containing a persalt bleach and a liquid organic bleach activator**

(57) A liquid laundry detergent composition contains a nonionic surfactant, an inorganic bleach and a liquid organic bleach activator such as ethylidene benzoate acetate. The compositions may be nonaqueous liquids based on liquid nonionic surfactants and include a detergent builder salt suspended in the liquid nonionic surfactant.

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detergents based on liquid nonionic surfactants suffer from the drawback that the nonionics tend to gel when added to cold water. This is a particularly important problem in the ordinary use of European household automatic washing machines where the user places the laundry detergent composition in a dispensing unit (e.g. a dispensing drawer) of the machine. During the operation of the machine the detergent in the dispenser is subjected to a stream of cold water to transfer it to the main body of wash solution. Especially during the winter months when the detergent composition and water fed to the dispenser are particularly cold, the detergent viscosity increases markedly and a gel forms. As a result some of the composition is not flushed completely off the dispenser during operation of the machine, and a deposit of the composition builds up with repeated wash cycles, eventually requiring the user to flush the dispenser with hot water.

The gelling phenomenon can also be a problem whenever it is desired to carry out washing using cold water as may be recommended for certain synthetic and delicate fabrics or fabrics which can shrink in warm or hot water.

The tendency of concentrated detergent compositions to gel during storage is aggravated by storing the compositions in unheated storage areas, or by shipping the compositions during winter months in unheated transportation vehicles.

Partial solutions to the gelling problem in aqueous substantially builder-free compositions have been proposed and include, for example, diluting the liquid nonionic with certain viscosity controlling solvents and gel-inhibiting agents, such as lower alkanols, e.g. ethyl alcohol (see U.S.P. 3,953,380), alkali metal formates and adipates (see U.S.P. 4,368,147), hexylene glycol, polyethylene glycol, etc. and nonionic structure modification and optimization. As an example of nonionic surfactant modification one particularly successful result has been achieved by acidifying the hydroxyl moiety end group of the nonionic molecule. The advantages of introducing a carboxylic acid at the end of the nonionic include gel inhibition upon dilution; decreasing the nonionic pour point; and formation of an anionic surfactant when neutralized in the washing liquor. Nonionic structure optimization has centred on the chain length of the hydrophobic-lipophilic moiety and the number and make-up of alkylene oxide (e.g. ethylene oxide) units of the hydrophilic moiety. For example, it has been found that a C_{13} fatty alcohol ethoxylated with 8 moles of ethylene oxide presents only a limited tendency to gel formation.

Improvements are desired in the bleach properties and the stability and gel inhibition of nonaqueous liquid fabric treating compositions containing a bleach and bleach activator. In accordance with the present invention a highly concentrated stable nonaqueous liquid laundry detergent composition is prepared containing a persalt bleach compound and a liquid organic compound bleach activator. A preferred persalt bleach compound is sodium perborate monohydrate and a preferred liquid organic compound bleach activator is ethylidene benzoate acetate. The liquid organic compound bleach activator is used to replace the conventionally used solid bleach activators, such as tetraacetyl ethylene diamine (TAED), and to thereby reduce the solids content of the concentrated detergent composition and to improve the pourability and dispersibility of the composition.

The persalt bleach and organic liquid bleach activator system of the present invention can be used in phosphate and in low phosphate detergent builder salt compositions.

In order to improve the viscosity characteristics of the composition an acid terminated nonionic surfactant can be added. To further improve the viscosity characteristics of the composition and the storage properties of the composition there can be added to the composition viscosity improving and antigel agents such as alkylene glycol mono alkyl ethers and an anti-settling agent such as an alkanol ester of phosphoric acid. In a preferred embodiment of the invention the detergent composition contains sodium perborate monohydrate bleach, ethylidene benzoate acetate bleach activator, an acid terminated nonionic surfactant, an alkylene glycol mono alkyl ether and an alkanol ester or phosphoric acid anti-settling stabilizing agent.

The conventionally used peroxygen bleach compounds, e.g. sodium perborate, percarbonate, perphosphate and persulphate can be used as the bleaching agent.

In an embodiment of the invention the builder components of the composition can be ground to a particle size of less than 100 microns, for example, to less than 40 microns, and to preferably less than 10 microns to further improve the stability of the suspension of the builder components in the liquid nonionic surfactant detergent.

In addition other ingredients can be added to the composition such as anti-incrustation agents, sequestering agents, anti-foam agents, optical brighteners, enzymes, anti-redeposition agents, perfumes and dyes.

Accordingly, in one aspect the present invention provides a liquid heavy duty laundry composition composed of a suspension of a peroxygen bleach compound and a detergent builder salt, e.g. a phosphate builder salt, in a liquid nonionic surfactant wherein the composition includes as the bleach activator an effective amount of a liquid organic bleach activator compound, e.g. ethylidene benzoate acetate.

According to another aspect, the invention provides a concentrated liquid heavy duty laundry

detergent composition which has good low temperature bleach properties, is stable, non-settling in storage and non-gelling in storage and in use. The liquid compositions of the present invention are easily pourable, easily measured and easily put into the washing machine and are readily dispersible in water.

- 5 According to another aspect, the invention provides a method for dispensing a liquid nonionic laundry detergent composition into and/or with cold water without undergoing gelation. In particular, a method is provided for filling a container with a non-aqueous liquid laundry detergent composition in which the detergent is composed, at least predominantly, of a liquid nonionic surface active agent and for dispensing the composition from the container into an aqueous wash bath, wherein the dispensing is effected by directing a stream of unheated water onto the composition such that the composition is carried by the stream of water into the wash bath. The use of the liquid organic compound bleach activator in the composition in place of the solid bleach activator reduces the problem of dispersed particle settling and improves the pourability of the composition.

- 15 The substitution of a liquid organic bleach activator for the prior art solid activators, such as TAED reduces the total solids content of the composition and provides the bleach activator in a dispersed liquid form in which it can more readily react with the persalt bleach compound. The concentrated nonaqueous liquid nonionic surfactant laundry detergent compositions of the present invention have the advantages of being stable, non-settling in storage, and non-gelling in storage. The liquid compositions are easily pourable, easily measured and easily put into the laundry washing machines and are readily dispersible in water.

- 20 The present invention aims to provide a stable liquid heavy duty nonaqueous nonionic detergent composition containing a persalt bleach compound and a liquid organic bleach activator compound, at least one viscosity control and anti-gel agent, an anti-settling stabilizing agent and an anionic phosphate detergent builder salt suspended in a nonionic surfactant. The invention also aims to provide liquid fabric treating compositions which have good low temperature bleach properties which are suspensions of insoluble inorganic particles in a nonaqueous liquid and which are storage stable, easily pourable and dispersible in cold, warm or hot water.

- 30 This invention also aims to formulate a highly built heavy duty nonaqueous liquid nonionic surfactant laundry detergent compositions which can be poured at a wide range of temperatures and which can be repeatedly dispersed from the dispensing unit of European style automatic laundry washing machines with less tendency to fouling or plugging of the dispenser even during the winter months.

- 35 This invention aims to provide a non-gelling, stable suspensions of heavy duty built nonaqueous liquid nonionic laundry detergent composition which contain a persalt bleach compound and include an effective amount of a liquid organic bleach activator compound.

- 40 In a preferred embodiment of the present invention a detergent composition comprises a nonaqueous liquid nonionic surfactant, a persalt bleach compound and a liquid organic persalt bleach activator, and may include inorganic or organic fabric treating additives, e.g. viscosity improving agents and one or more anti-gel agents, anti-incrustation agents, pH control agents, anti-foam agents, optical brighteners, enzymes, anti-redeposition agents, perfumes, dyes and colouring pigments.

- 45 The nonaqueous liquid nonionic laundry detergent compositions of the present invention contain a persalt bleach compound and a liquid organic bleach activator as essential ingredients of the composition.

- 50 The persalt bleach compounds, which are well known in the art, are dispersed as solids in the nonionic surfactant and are readily soluble on the addition of the detergent composition to the aqueous wash water. The persalt compounds, or oxygen bleaches are percompounds which liberate hydrogen peroxide in aqueous solution. Preferred examples include sodium and potassium perborates, percarbonates and perphosphates, and potassium monopersulphate. The perborates, particularly sodium perborate monohydrate, are especially preferred.

- 55 Hydrogen peroxide and the precursors which liberate hydrogen peroxide are good oxidizing agents for removing stains from cloth, especially stains caused by wine, tea, coffee, cocoa, fruits, etc. Hydrogen peroxide and its precursors have been found in general to bleach quickly and most effectively at a relatively high temperature, e.g. about 80° to 100°C.

- 60 In order to take advantage of the low temperature effective detergents and low temperature washing cycles now commonly used for temperature sensitive fabrics, the persalt or peroxygen bleach compound is used in admixture with a bleach activator.

- 65 Heretofore solid bleach activators have been used, such as tetraacetyl ethylene diamine (TAED). The use of the solid activators increased the solids content of the particles dispersed in the nonionic surfactant detergent and required that the solid bleach activators dissolve in the aqueous bath liquid prior to the activators being able to react with the persalt bleach compound. In accordance with the present invention clear fluid liquid organic bleach activator compounds are used to activate the persalt bleach compound. Because the organic bleach activators are

partial ester of phosphoric acid and an alcohol such as an alkanol which has a lipophilic character, having, for instance, more than 5 carbon atoms, e.g. 8 to 20 carbon atoms.

A specific example is a partial ester of phosphoric acid and a C₁₆ to C₁₈ alkanol (Empiphos 5632 from Marchon); it is made up of about 35% monoester and 65% diester.

- 5 The inclusion of quite small amounts, e.g. 0.3% by weight of the acidic organic phosphorous compound makes the suspension stable against settling on standing but remains pourable, while, for the low concentration of stabilizer, e.g. below about 1%, its plastic viscosity will generally decrease.

- 10 Other bleach activators can optionally be added to the composition: among these are bleach activator compounds such as tetraacetyl ethylene diamine (TAED) and pentaacetyl glucose, acetylsalicylic acid derivatives, alkyl and alkenyl succinic anhydride, tetraacetylglycouril ("TAGU"), and the derivatives of these.

- 15 In addition to the detergent builders, various other detergent additives or adjuvants may be present in the detergent product to give it additional desired properties, either of functional or aesthetic nature. Thus, there may be included in the formulation, minor amounts of soil suspending or anti-redeposition agents, e.g. polyvinyl alcohol, fatty amides, sodium carboxymethyl cellulose, hydroxy-propyl methyl cellulose. A preferred anti-redeposition agent is sodium carboxymethyl cellulose having a 2:1 ratio of CMC/MC which is sold under the tradename Relatin DM 4050.

- 20 There may also be included in the composition small amounts of Duet 787 which is a laundry detergent perfume, and which is supplied by International Flavours and Fragrances, Inc., Union Beach, NJ 07735. The Duet 787 can be added in amounts such as 0 to 3, preferably 0.2 to 2.0 percent, e.g. 0.5 to 2 percent, such as 0.3 to 1.0 percent by weight of the composition.

- 25 Optical brighteners for cotton, polyamide and polyester fabrics can be used. Suitable optical brighteners include stilbene, triazole and benzidine sulphone compositions, especially sulphonated substituted triazinyl stilbene, sulphonated naphthotriazole stilbene, benzidine sulphone, etc., most preferred are stilbene and triazole combinations. A preferred brightener is Stilbene Brightener N4 which is a dianilindimorpholino stilbene polysulphonate.

- 30 Enzymes, preferably proteolytic enzymes, such as subtilisin, bromelin, papin, trypsin and pepsin, as well as amylase type enzymes, lipase type enzymes, and mixtures thereof can be added. A preferred enzyme is Esperase SL8 which is a proteolytic enzyme. Anti-foam agents, e.g. silicon compound, such as Silicane L 7604, which is a polysiloxane, can also be added in small effective amounts.

- 35 Bactericides, e.g. tetrachlorosalicylanilide and hexachlorophene, fungicides, dyes, pigments (water dispersible), preservatives, ultraviolet absorbers, anti-yellowing agents, such as sodium carboxymethyl cellulose, pH modifiers and pH buffers, colour safe bleaches, perfume, and dyes and bluing agents such as ultramarine blue can be used.

- 40 In an embodiment of the invention the stability of the builder salts in the composition during storage and the dispersibility of the composition in water is improved by grinding and reducing the particle size of the solid builders to less than 100 microns, preferably less than 40 microns and more preferably to less than 10 microns. The solid builders, e.g. sodium tripolyphosphate (TPP), are generally supplied in particle sizes of about 100, 200 or 400 microns. The nonionic liquid surfactant phase can be mixed with the solid builders prior to or after carrying out the grinding operation.

- 45 In a preferred embodiment of the invention, the mixture of liquid nonionic surfactant and solid ingredients is subjected to an attrition type of mill in which the particle sizes of the solid ingredients are reduced to less than about 10 microns, e.g. to an average particle size of 2 to 10 microns or even lower (e.g. 1 micron). Preferably less than about 10%, especially less than about 5% of all the suspended particles have particle sizes greater than 10 microns. Compositions whose dispersed particles are of such small size have improved stability against separation or settling on storage. Addition of the acid terminated nonionic surfactant compound can decrease the yield stress of such dispersions and aid in the dispersibility of the dispersions without a corresponding decrease in the dispersions stability against settling.

- 50 In the grinding operation, it is preferred that the proportion of solid ingredients be high enough (e.g. at least about 40% such as about 50%) that the solid particles are in contact with each other and are not substantially shielded from one another by the nonionic surfactant liquid. After the grinding step any remaining liquid nonionic surfactant can be added to the ground formulation. Mills which employ grinding balls (ball mills) or similar mobile grinding elements have given very good results. Thus, one may use a laboratory batch attritor having 8 mm diameter seatite grinding balls. For larger scale work a continuously operating mill in which there are 1 mm or 1.5 mm diameter grinding balls working in a very small gap between a stator and a rotor operating at a relatively high speed (e.g. a CoBall mill) may be employed; when using such a mill, it is desirable to pass the blend of nonionic surfactant and solids first through a mill which does not effect such fine grinding (e.g. a colloid mill) to reduce the particle size to less than 100 microns (e.g. to about 40 microns) prior to the step of grinding to an average particle diameter of 65

below about 10 microns in the continuous ball mill.

In the preferred heavy duty liquid laundry detergent compositions of the invention, typical proportions (percent based on the total weight of composition, unless otherwise specified) of the ingredients are as follows:

5	Liquid nonionic surfactant detergent in the range of about 10 to 60, such as 20 to 50 percent, e.g. about 30 to 40 percent;	5
	Acid terminated nonionic surfactant viscosity improving agent in an amount in the range of about 0 to 20, such as 1 to 10 percent, e.g. about 2 to 5;	
	Detergent builder, such as sodium tripolyphosphate (TPP), in the range of about 10 to 60, such as 15 to 50 percent, e.g. about 25 to 35 percent;	10
10	Copolymer of acrylic acid and maleic anhydride, alkali metal salt, e.g. Sokalan CP5, anti-incrustation agent in the range of about 0 to 10, such as 1 to 8 percent, e.g. about 2 to 4 percent;	
	Alkylene glycol monoalkylether anti-gel agent in an amount in the range of about 5 to 30, such as 5 to 20 percent, e.g. about 5 to 15 percent;	15
15	Phosphoric acid alkanol ester stabilizing agent in the range of 0 to 2.0 or 0.1 to 1.0, such as 0.2 to 0.5 percent;	
	Persalt bleaching agent in the range of about 5 to 30, such as 2 to 20, e.g. about 5 to 15 percent;	
20	Liquid organic bleach activator compound, e.g. ethylidene benzoate acetate in the range of about 1 to 15, such as 1 to 8, e.g. about 2 to 6 percent;	20
	Sequestering agent for bleach, e.g. Dequest 2066, in the range of about 0 to 3.0, preferably 0.5 to 2.0 percent, e.g. about 0.50 to 1.25 percent;	
	Anti-redeposition agent, e.g. Relatin DM 4050, in the range of about 0 to 4.0, preferably 0.5 to 3.0 percent, e.g. 0.5 to 1.5 percent;	25
25	Optical brightener in the range of about 0 to 2.0, preferably 0.05 to 1.0 percent, e.g. 0.15 to 0.75 percent;	
	Enzymes in the range of about 0 to 3.0, preferably 0.5 to 2.0 percent, e.g. 0.75 to 1.25 percent; and	
30	Perfume in the range of about 0 to 3.0, preferably 0.10 to 1.25 percent, e.g. 0.25 to 1.0 percent.	30
	Various of the previously mentioned additives can optionally be added to achieve the desired function of the added materials.	
	The liquid organic bleach-activator compound is preferably used with at least one of the alkylene glycol mono-ether or the acid terminated nonionic surfactant viscosity control and anti-gel agents. In some cases advantages can be obtained by using both the alkylene glycol mono-ethers and the acid terminated nonionic surfactants.	35
	In the selection of the additives, they will be chosen to be compatible with the main constituents of the detergent composition. In this application all proportions and percentages are by weight of the entire formulation or composition unless otherwise indicated.	40
40	The concentrated nonaqueous nonionic liquid detergent composition of the present invention dispenses readily in the water in the washing machine.	
	In an embodiment of the invention the detergent composition of a typical formulation is formulated using the below named ingredients:	
45		45
	Nonionic surfactant detergent, or mixture.	Weight %
	Acid terminated surfactant viscosity improving agent.	20-45
	Phosphate detergent builder salt.	0-20
50	Anti-incrustation agent.	10-60
	Alkylene glycol monoalkylether anti-gel agent.	0-10
	Phosphoric acid alkanol ester stabilizing agent.	5-15
55	Anti-redeposition agent.	0-2.0
	Alkali metal perborate bleaching agent.	0-4.0
	Liquid organic bleach activator compound, e.g. ethylidene benzoate acetate.	5-15
	Sequestering agent for bleach.	0-2.0
60	Perfume (Duet 787).	0-3.0
	Optical brightener.	0.15-0.75
	Enzymes.	0.75-1.25
65	The present invention is further illustrated by the following examples.	65

EXAMPLE 1

A concentrated nonaqueous liquid nonionic surfactant detergent composition is formulated from the following ingredients in the amounts specified.

5						5
				Weight %		
	Nonionic surfactant.			37.0		
	Acid terminated Dobanol 91-5 reaction					
	product with succinic anhydride.			5.0		
10	Sodium tripolyphosphate (TPP).			31.4		10
	Diethylene glycol monobutylether anti-gel					
	agent.			10.0		
	Phosphoric acid alkanol ester (Empiphos 5632).			0.3		
	Sodium perborate monohydrate bleaching agent			9.0		
15	Ethylidene benzoate acetate bleach activator.			4.5		15
	Anti-redeposition agent (Relatin DM 4050) ⁽¹⁾ .			1.0		
	Optical brightener (Tinopal ATSX).			0.2		
	Perfume.			0.6		
	Enzyme (which is Esperase).			1.0		
20				100.0		20

(1) CMC/MC 2:1 mixture of sodium carboxymethyl cellulose and hydroxymethylcellulose.

The formulation is ground for about one hour to reduce the particle size of the suspended builder salts to less than 40 microns. The formulated detergent composition is found to be stable and non-gelling in storage and readily dispersible in water and to have good bleaching properties.

EXAMPLE 2

A concentrated nonaqueous liquid nonionic surfactant detergent composition was formulated from the following ingredients in the amounts specified.

				Weight %		
	Surfactant Product D.			13.5		
	Surfactant T7.			10.0		
35	Surfactant T9.			10.0		35
	Acid terminated Dobanol 91-5 reaction					
	product with succinic anhydride.			5.0		
	Sodium tripolyphosphate (TPP).			29.6		
	Anti-incrustation agent (Sokalan CP5).			4.0		
40	Diethylene glycol monobutylether anti-gel agent.			10.0		40
	Phosphoric acid alkanol ester (Empiphos 5632).			0.3		
	Sodium perborate monohydrate bleaching agent.			9.0		
	Ethylidene benzoate acetate bleach activator.			4.5		
	Sequestering agent for bleach (Dequest 2066).			1.0		
45	Anti-redeposition agent (Relatin DM 4050) ⁽¹⁾ .			1.0		45
	Optical brighteners (Stilbene).			0.5		
	Enzyme (Esperase slurry).			1.0		
	Duet 787 ⁽²⁾ .			0.6		
50				100.0		50

(1) CMC/MC 2:1 mixture of sodium carboxymethyl cellulose and hydroxymethylcellulose.

(2) Duet 787 which is a perfume, i.e. fragrance from IFF, Inc.

The formulation is ground for about one hour to reduce the particle size of the suspended builder salts to less than 40 microns. The formulated detergent composition is found to be stable and non-gelling in storage and readily dispersible in water. The bleach is active at 40°C on both wine and immiedial black soils.

The formulations of Examples 1 and 2 can be prepared without grinding the builder salts and suspended solid particles to a small particle size, but best results are obtained by grinding the formulation to reduce the particle size of the suspended solid particles.

The builder salts can be used as provided or the builder salts and suspended solid particles can be ground or partially ground prior to mixing them with the nonionic surfactant. The grinding can be carried out in part prior to mixing and grinding completed after mixing or the entire grinding operation can be carried out after mixing with the liquid surfactant. The formulations containing suspended builder and solid particles less than 40 microns in size are preferred.

The persalt bleach compound and the liquid organic bleach activator compound system of the present invention can also be used in nonionic surfactant detergent dishwashing compositions, cream scourers, and other compositions in which bleaching is required.

It is understood that the foregoing detailed description is given merely by way of illustration and that variations may be made therein without departing from the spirit of the invention. 5

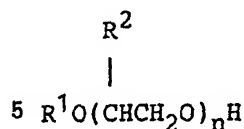
CLAIMS

1. A detergent composition which comprises a nonionic surfactant detergent, an inorganic peroxygen compound bleaching agent and a liquid organic bleach activator compound.
- 10 2. A detergent composition as claimed in Claim 1 in liquid form comprising a liquid nonaqueous nonionic surfactant detergent.
3. A composition as claimed in Claim 2 in which the composition comprises a viscosity control and anti-gel agent.
4. A detergent composition as claimed in Claim 2 or Claim 3 in which the composition 15 comprises at least one viscosity control and anti-gel agent selected from the group consisting of an alkylene glycol monoalkyl ether and an acid terminated nonionic surfactant.
5. A composition as claimed in any one of Claims 2 to 4 which comprises a suspension of insoluble inorganic detergent builder salt.
6. A composition as claimed in Claim 5 in which the insoluble inorganic builder salt com- 20 prises a polyphosphate detergent builder and is present in an amount of 10 to 60 percent.
7. A detergent composition as claimed in any one of Claims 1 to 6 comprising one or more detergent adjuvants selected from the group consisting of anti-incrustation agents, sequestering agents, anti-redeposition agents, optical brighteners, enzymes and perfumes.
8. A composition as claimed in any one of Claims 1 to 7 in which the composition com- 25 prises 10 to 60 percent of a nonionic liquid surfactant detergent.
9. A detergent composition as claimed in Claim 4 or any one of Claims 5 to 8 when appendant to Claim 4 comprising 5 to 30 percent of an alkylene glycol monoalkyl ether.
10. A composition as claimed in Claim 5 or any one of Claims 6 to 9 when appendant to Claim 5 in which the inorganic builder salt has a particle size of less than 40 microns.
- 30 11. A composition as claimed in any one of Claims 1 to 10 which contains from about 0.1 to about 0.5 percent by weight, based on the total composition, of a phosphoric acid alkanol ester anti-settling stabilizing agent.
12. A composition as claimed in any one of Claims 1 to 11 in which the liquid organic bleach activator compound has the general formula



wherein R¹, R² and R³ represent hydrocarbon radicals and the hydrocarbon radicals are selected such that the organic compound is a liquid.

- 50 13. A composition as claimed in Claim 12 in which the liquid organic bleach activator is ethylidene benzoate acetate.
14. A nonaqueous heavy duty, built laundry detergent composition which is pourable at high and low temperatures and does not gel when mixed with cold water, the said composition comprising
- 55 at least one liquid nonionic surfactant in an amount of from about 10 to 60 percent by weight;
- at least one inorganic detergent builder salt suspended in the nonionic surfactant in an amount of from about 10 to about 60 percent by weight;
- an inorganic peroxygen bleaching agent in an amount of about 5 to 15 percent;
- 60 ethylidene benzoate acetate bleach activator in an amount of about 1 to 8.0 percent;
- an acid terminated nonionic surfactant as a gel inhibiting additive, in an amount of about 0 to 20 percent by weight; and
- a compound of the formula



5

where R¹ represents a C₂ to C₈ alkyl group, R² represents a hydrogen atom or a methyl group and n is a number having an average value in the range of from about 1 to 6, as a gel inhibiting additive in an amount up to about 5 to 30 percent by weight. 10

15. A detergent composition as claimed in Claim 14 which contains one or more detergent adjuvants selected from the group consisting of anti-incrustation agents, sequestering agents, anti-redeposition agents, optical brighteners, enzymes and perfumes.

16. A nonaqueous liquid heavy duty laundry detergent composition as claimed in Claim 14 or 15 Claim 15 which comprises in percent by weight: 15

Nonionic surfactant in an amount of about 20-50;

Sodium tripolyphosphate (TPP) in an amount of about 15-50;

Copolymer of acrylic acid and maleic anhydride sodium salt in an amount of about 1-8;

Diethylene glycol monoalkylether in an amount of about 5-20;

20 Phosphoric acid alkanol ester in an amount of about 0.1-1.0; 20

Sodium perborate monohydrate bleaching agent in an amount of about 2-20; and

Ethylidene benzoate acetate bleach activator in an amount of about 1-8.

17. A nonaqueous liquid heavy duty laundry detergent composition as claimed in Claim 14, 15 or 16 which comprises in percent by weight:

25 Nonionic surfactant in an amount of about 30-40; 25

Acid terminated nonionic surfactant viscosity improving agent in an amount of about 1-10;

Sodium tripolyphosphate in an amount of about 25-35;

Copolymer of acrylic acid and maleic anhydride sodium salt in an amount of about 2-4;

Diethylene glycol monobutylether in an amount of about 5-15;

30 Phosphoric acid alkanol ester in an amount of about 0.2-0.5; 30

Sodium perborate monohydrate bleaching agent in an amount of about 5-15;

Ethylidene benzoate acetate bleach activator in an amount of about 2-8.0;

Sequestering agent for bleach in an amount of about 0.50-1.25; and

Anti-redeposition agent in an amount of about 0.5-1.5.

35 18. A composition as claimed in Claim 1 substantially as specifically described herein with 35 reference to the Examples.

19. A method for cleaning soiled fabrics which comprises contacting the soiled fabrics with a detergent composition as claimed in any one of Claims 1 to 18.